

Plate XIII—Nymphs of *Leucorrhinia*, terminal segments of abdomen, dorsal view.

Fig 5.—*L. frigida*.

Fig. 6.—*L. intacta*.

Fig. 7.—*L. glacialis*.

Fig. 8.—*L. proxima*.

Fig. 9.—*L. borealis*.

Fig. 10.—*L. hudsonica*.

NEW SPECIES OF NEW ENGLAND SARCOPHAGIDÆ.*

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(Continued from page 364.)

Sarcophaga scoparia nearctica, n. subsp.

Type.—Massachusetts Agricultural College, male and female.

Paratypes.—Collection of author, two males, one female.

♂.—Posterior trochanter without "brush," with long hairs only; femur usually arched, posterior face without ventral row of

bristles; tibia more or less curved, with an anterior and a posterior beard, latter much the stronger; middle coxa, at least dorsally, with more than a single row of bristles; tibia on about distal half with short, weak, anterior and posterior beards; ventral surface of anterior coxa clothed completely with bristles; anterior postsutural dorsocentrals weak but at least as long as those before the suture, only last two pairs strong; vestiture of third ventral plate erect and not short; both genital segments usually dull orange but first may be in part or wholly grayish pollinose; first segment in profile with a slight



Fig. 21.—*Sarcophaga scoparia nearctica*, n. subsp., genital segments of male.

depression just anterior to marginal bristles, latter usually weak and often hair-like.

♀.—Vestiture of metanotum of short, reclinate bristles or of short nearly erect bristly hair except that vestiture of scutellum is hairy and erect throughout or at least anteriorly; anterior post-

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sutural dorsocentrals weak but at least as long as those before the suture, only last two pairs strong; nota of abdomen clothed with short, reclinate bristles above, beneath with more erect hairs or bristles; genital segments *protuberant*, somewhat cone-shaped, visible from above; the two broad lateral lips of the first genital segment dull orange, sometimes slightly darkened, spiracles close to anterior margins; fifth and sixth ventral plates fused; sixth fully exposed, not overlapped by lips of first segment, narrowed posteriorly, its posterior margin with bristles on each side of centre.

Length.—8.5 to 15 mm., average 12 to 14 mm.

♂.—HEAD.—Viewed from side, parafrontals and genæ with dark reflections. Breadth of front varies from slightly less to slightly greater than one-half eye width; cheek height approximately one-third or three-sevenths that of eye. Front prominent, sides of frontal vitta parallel or slightly convergent backward. Second antennal segment dark; third about twice length of second; arista plumose to beyond middle. Back of head somewhat convex, usually with four, sometimes three, irregular rows of black cilia behind eyes, otherwise clothed with whitish or yellowish hair that completely covers the metacephalon except that occasionally there are black hairs in lower anterior corners. Cheeks clothed with black hair. Gena with short row of long, sometimes bristly hairs near lower eye orbit, other shorter ones may continue upward. Palpi dark.

Chaetotaxy.—Lateral verticals absent, rarely weakly developed; vibrissæ inserted slightly above mouth margin.

THORAX.—Metanotum clothed with slender, reclinate bristles or with bristle-like hair. Hairs covering anterior spiracle dark brown basally, lighter toward tips; those of anterior margin of posterior spiracle dark brown; those of spiracular cover dark brown or brownish, tips yellowish. Epaulets dark.

WINGS.—Bend of fourth vein either an acute, right, or slightly obtuse angle; anterior cross-vein more basal than end of first longitudinal; third vein bristly; costal spine vestigial; section III of costa about one and one-half times section V or even longer; posterior margin of alulae either bare or fringed with hair; calypters whitish, fringe of hairs dark at fold, otherwise whitish.

LEGS.—Dark. Posterior trochanter without "brush;" femur

cylindrical or somewhat spindle shaped, often more or less arched, clothed beneath with long, fine hairs that become longer and coarser posteriorly, forming a sort of beard; anterior face with three rows of bristles, those of intermediate row shortest, and not developed distally; posterior face without ventral row of bristles; tibia more or less curved; anterior and posterior faces each with a beard of long, coarse, black hairs on about distal three-fourths, latter much the stronger: tarsus usually somewhat shorter than tibia, fourth segment at least one-half fifth. Middle coxa at least dorsally, with more than a single row of bristles, though the additional bristles may be rather slender: femur clothed beneath on posterior proximal half or more with long hairs; anterior ventral row of short, scattered bristles complete, posterior row represented only by "comb" extending proximally to the long hair: submesotibial bristle present, often obscured by coarse vestiture that covers tibia ventrally on distal half or thereabouts and becomes beard-like anteriorly and posteriorly. Ventral surface of anterior coxa clothed completely with bristles which are often separable into three irregular rows, one at each side and one intermediate that is usually less complete: vestiture of tibia longest ventrally, posteriorly and distally.

Chaetotaxy.—Anterior dorsocentrals short and usually stout but longer than vestiture of præscutum; acrostichals absent or but slightly differentiated anteriorly; inner presuturals short and slender: last two pairs of postsutural dorsocentrals strong, anterior to these several weak pairs that vary greatly in length; prescutellar acrostichals present: scutellar apicals present: three sternopleurals lower sternopleura with a single row of bristles, otherwise clothed with long hairs which, in large specimens, become quite coarse.

ABDOMEN.—Somewhat conical or oval; clothed above with short, reclinate bristles, beneath with longer, more erect hair. Ventral plates, as a whole, with their sides converging posteriorly, their shape and size variable; vestiture decreasing in length posteriorly, that of third plate shortest and erect. Posterior margin at fourth notum, especially dorsally, may be dull orange.

Chaetotaxy.—Second segment without marginal bristles; third with two and usually with slender, decumbent ones between these

and laterals; fourth with a complete row ending ventrally in long hairs.

GENITAL SEGMENTS.—Prominent, usually the greater part of first exposed; ground colour dull orange or yellowish; first (g. s. 1) sometimes brownish, usually with pollen, sometimes partly grayish pollinose and occasionally entirely so except lateral posterior portions. First (g. s. 1), vestiture shorter than that of second, "humps" almost bare, in profile with a slight depression anterior to marginal bristles, latter rarely strong, usually hair-like or even so weak as to be scarcely distinguishable. Membrane joining first and second segments dorsally often blackish. Second (g. s. 2), rotund, not flattened, anal area rather small and not extending above middle of posterior surface. Forceps (♀) darkened, usually blackish, at least distally, hairy to beyond middle; base with upward flap-like extensions clothed with fine hair shorter than vestiture of second segment; tips of prongs spread and bent forward. (a. p.—accessory plate, a. c.—anterior claspers, p. c.—posterior claspers.)

GENITALIA.—Distinctive for North American species.

♀.—Females differ from males in the following important characters.

HEAD.—Breadth of front at narrowest part slightly less than eye width. Upper inner orbits of eyes diverging downward.

THORAX.—Vestiture of metanotum of short reclinate bristles or nearly erect bristly hair except that vestiture of scutellum is hairy and erect throughout, or at least anteriorly.

LEGS.—Posterior trochanter with slender apical bristle: femur somewhat spindle-shaped, not arched, bristles of intermediate row on anterior face restricted to proximal half and sometimes only a few present; posterior row with ventral row of long, well separated bristles on proximal half or slightly more. Anterior and posterior ventral rows of middle femur complete, but bristles weak and inconspicuous distally: submesotibial bristle very strong, sometimes a short bristle just above it.

Chaetotaxy.—Lower sternopleura with bristles only, or at most but a few long hairs anteriorly.

ABDOMEN.—Oval; vestiture short throughout, clothed above with reclinate bristles, beneath either with more erect hair or bristles.

GENITAL SEGMENTS.—Protuberant, visible from above. The two broad lateral lips of first genital segment distinctly separate dorsally; dull orange, sometimes slightly darkened, occasionally yellowish pollinose ventrally; upper edges fringed with hair and bristles, latter mostly above lines of spiracles which are close to anterior margin. Spiracles of fifth segment usually concealed. Sixth ventral plate (seventh anatomical) with posterior marginal bristles at each side of centre and not overlapped by lips of first genital notum.

Described from 3 male and 2 female specimens, many others examined.

RANGE.—New England: Mass.: Woods Hole, Boston, Lowell, Cohasset, Gloucester, Cambridge, New Bedford, Wellesley, Melrose, Chester, Amherst; Me.: E. Eddington, Orr's Island, Buckfield; Conn.: New Haven.

United States.—N. Y., N. H., Pa., Ohio, Ill., Wy.

Böttcher (1912) has shown that *S. scoparia* Pandelle should more properly be called *Sarcophaga matertera* Rondani. *S. scoparia nearctica* is one of the most variable flies of this group with which we have to deal in New England; the description gives ample evidence. The characters of the penis are as much so as the external characters. In the figure of the genitalia a lateral distal process may be noted ending anteriorly in two sharp projections. Sometimes the lower projection is lacking while in other specimens the two processes are united anteriorly, forming a sort of distal ring.

Among my material are one female and two male specimens of the Palearctic species, *S. scoparia*. These differ considerably from the American subspecies. The genital segments and genitalia are black or blackish, the bristles of the thorax are longer and more slender, and its vestiture more hairy. Some of our specimens approach the European as regards chaetotaxy and vestiture, but I have seen none with any tendency toward black genital segments, though the first is sometimes brownish. It is possible that our North American subspecies might justifiably be designated as a species.

The females of *S. scoparia nearctica* are rather difficult to distinguish from those of *S. utilis* Aldrich.

Specimens of this subspecies captured by Metz larviposited on dung and refuse. A female received from Richardson (N. J.) was captured on cow manure.

THE ENTOMOLOGICAL SOCIETY OF ONTARIO.

ANNUAL MEETING.

The fifty-third Annual Meeting of the Entomological Society of Ontario was held at the Ontario Agricultural College, Guelph, on Thursday and Friday, November 2nd and 3rd, 1916. The President of the Society, Mr. A. F. Winn, Westmount, P. Q., occupied the chair. The following were present at the meeting: Dr. L. O. Howard, Chief of the Bureau of Entomology, Washington, D. C.; Prof. P. J. Parrott, Geneva, N. Y.; Prof. E. M. Walker, University of Toronto; Prof. W. Lochhead, Macdonald College, P. Q.; Prof. W. H. Brittain, Truro, N. S.; Dr. C. Gordon Hewitt, Messrs. A. Gibson and J. M. Swaine, Entomological Branch, Ottawa; Messrs. W. H. Harrington and F. W. L. Sladen, Ottawa; Rev. Father Leopold, La Trappe, P. Q.; Mr. F. J. A. Morris, Peterborough; Mr. J. Dunlop, Woodstock; Prof. J. Dearness, London; Mr. W. A. Ross, Vineland Station; Mr. W. E. Biggar, Hamilton; Mr. N. Criddle, Treesbank, Man.; Mr. A. B. Baird, Fredericton, N. B.; Professors C. A. Zavitz, J. E. Howitt, C. J. S. Bethune, L. Caesar, J. W. Crow, D. H. Jones, E. J. Zavitz, and S. B. McCready, Dr. R. E. Stone, Capt. G. J. Spencer, Messrs. A. W. Baker, A. H. Tomlinson, G. H. Unwin, C. R. Klinck, H. R. Fry, G. F. Kingsmill, E. Hearle, A. W. Guild, R. M. Aiton, J. B. McCurry and W. Evans, Ontario Agricultural College.

Letters expressing regret at their inability to attend the meeting, and containing hearty good wishes for its success, were received from the Minister and Deputy Minister of Agriculture for Ontario, the Minister of Education, and a large number of the leading entomologists in the United States.

On Thursday morning a meeting of the Council was held, at which the report of the proceedings during the past year was